

CDS Elementary Mathematics — Practice Set 1

PRACTICE PAPER

Exam: CDS (UPSC) Elementary Mathematics

Time: 35 minutes

Max. marks: 25 questions

Questions: 25

NAME

ROLL NO. / DATE

Instructions

1. Arithmetic, algebra, geometry, mensuration, trigonometry and statistics.
2. Calculators are not allowed.

ELEMENTARY MATHEMATICS

1. 15% of 20% of 1000 is
(A) 30 (B) 35
(C) 300 (D) 3
2. A shopkeeper sells an article for ₹120 at a loss of 25%. Its cost price is
(A) ₹150 (B) ₹160
(C) ₹90 (D) ₹144
3. The square root of 1764 is
(A) 44 (B) 42
(C) 38 (D) 48
4. The LCM of 3, 5 and 7 is
(A) 35 (B) 15
(C) 105 (D) 21
5. The amount on ₹5000 at 10% per annum compound interest for 2 years is
(A) ₹6000 (B) ₹6050
(C) ₹6100 (D) ₹5500
6. 60 km/h expressed in m/s is
(A) 16.67 (B) 18
(C) 15 (D) 20
7. The area of a circle of radius 7 cm is ($\pi = 22/7$)
(A) 44 cm^2 (B) 154 cm^2
(C) 144 cm^2 (D) 49 cm^2
8. The area of a right triangle with legs 12 cm and 5 cm is
(A) 60 cm^2 (B) 30 cm^2
(C) 17 cm^2 (D) 65 cm^2

9. The hypotenuse of the triangle in the previous question is
(A) 13 cm (B) 17 cm
(C) 15 cm (D) 11 cm
10. A train 360 m long passes a pole in 18 s. Its speed in km/h is
(A) 72 (B) 20
(C) 48 (D) 64
11. If $3x - 7 = 11$, then $x =$
(A) 4 (B) 6
(C) 3 (D) 18
12. The HCF of 36 and 48 is
(A) 6 (B) 8
(C) 12 (D) 24
13. The average of 10, 20, 30, 40 and 50 is
(A) 25 (B) 30
(C) 35 (D) 150
14. In a triangle two angles are 70° each. The third angle is
(A) 40° (B) 50°
(C) 60° (D) 20°
15. The value of $(a + b)^2 - (a - b)^2$ is
(A) $2ab$ (B) $4ab$
(C) $a^2 + b^2$ (D) 0
16. If the ratio of two numbers is 3 : 5 and their sum is 64, the larger number is
(A) 24 (B) 40
(C) 32 (D) 48
17. A work is done by A in 10 days and by B in 15 days. Together they finish it in
(A) 5 days (B) 6 days
(C) 12.5 days (D) 25 days
18. The volume of a cube of side 4 cm is
(A) 16 cm^3 (B) 48 cm^3
(C) 64 cm^3 (D) 96 cm^3
19. $\sin 30^\circ \times \cos 60^\circ + \cos 30^\circ \times \sin 60^\circ =$
(A) 0 (B) 1
(C) $1/2$ (D) $\sqrt{3}/2$
20. The median of 3, 7, 1, 9, 5 is
(A) 5 (B) 7
(C) 3 (D) 9
21. The mode of 2, 3, 3, 4, 5, 3, 2 is
(A) 2 (B) 3
(C) 4 (D) 5

22. Simple interest on ₹2000 at 5% per annum for 3 years is
(A) ₹300 (B) ₹150
(C) ₹3000 (D) ₹315
23. Each exterior angle of a regular pentagon is
(A) 108° (B) 72°
(C) 60° (D) 36°
24. If $x = 2 + \sqrt{3}$, then $x + 1/x =$
(A) 4 (B) $2\sqrt{3}$
(C) 2 (D) $4 + 2\sqrt{3}$
25. The total surface area of a cube is 150 cm^2 . Its edge is
(A) 5 cm (B) 6 cm
(C) 25 cm (D) 10 cm
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